

## PATENT ABSTRACTS OF JAPAN

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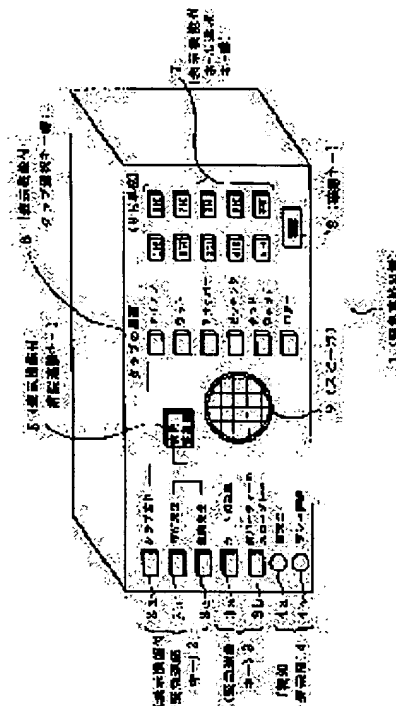
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(54) EMERGENCY COMMUNICATION SYSTEM FOR GOLF CART

(57)Abstract:

**PROBLEM TO BE SOLVED:** To make a player able to perform emergency communication from a golf cart to a management house by a simple operation.

**SOLUTION:** Emergency communication keys 2 and 3, etc., for performing the required emergency communication to the management house in the golf cart are provided and by having the player press the emergency communication keys 2 and 3, the required emergency communication is performed from the golf cart to the management house. Also, by adding a display function to the emergency communication key 2 and providing the voice output function of a speaker 9 or the like the operation conditions or the like of the emergency communication keys 2 and 3 are presented to the player.



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## CLAIMS

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### [Claim(s)]

[Claim 1] While the positional information from two or more locators which are arranged in the necessary location which met each course of a golf course, and transmit the positional information of each course by the feeble electric wave, and this locator is receivable The golf cart equipped with the transmitter-receiver which can transmit and receive an information signal through a small power electric wave, As an urgent communication system of the golf cart which consists of a management building which receives said positional information from this golf cart through a repeater, and manages operation of said golf cart The handler for urgent communication for performing necessary urgent communication to said golf cart to said management building, The display means which can display the actuation situation of this handler for urgent communication, The urgent communication system of the golf cart characterized by having the control means which can perform the transmission control for transmitting the urgent communication information according to actuation of said handler for urgent communication to said management building, and the display control of said display means.

[Claim 2] The urgent communication system of the golf cart according to claim 1 characterized by preparing the handler for connecting a crab failure to the above-mentioned handler for urgent communication, and the handler for connecting the class of crab which he has forgotten.

[Claim 3] The urgent communication system of the golf cart according to claim 1 characterized by preparing the handler for connecting that the injury or the sudden illness broke out to the above-mentioned handler for urgent communication, and the handler for demanding communication in a hospital.

[Claim 4] The urgent communication system of the golf cart according to claim 1 characterized by preparing the handler for connecting failure of a cart to the above-mentioned handler for urgent communication, and the handler for connecting the slow play of a front party.

[Claim 5] The urgent communication system of the golf cart according to claim 2 characterized by preparing the handler for connecting the hole which has left crab in the above-mentioned handler for urgent communication.

[Claim 6] The above-mentioned golf cart is the urgent communication system of the golf cart according to claim 1 characterized by having an information means by which generating of thunder and delay of a play can be reported, with the information signal from the above-mentioned management building.

[Claim 7] The above-mentioned golf cart is the urgent communication system of a golf cart given in any 1 term of claim 1 characterized by having a voice output means to output the voice-told message corresponding to the actuation when the above-mentioned handler for urgent communication is operated thru/or claim 6.

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DETAILED DESCRIPTION

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[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the urgent communication system of the golf cart with which a player can perform urgent communication from a golf cart to a management building.

[0002]

[Description of the Prior Art] On the golf course in recent years, in order to reduce the management cost, the case where a golf course is managed without using a caddie is often considered. In this case, on a golf course, although it plays while a player conveys the golf bag which contained the golf club with a golf cart, a player needs to get to know the play location of a precedence group into playing efficiently.

[0003] Then, these people are performing the proposal which transmits the positional information of the golf cart which is moving previously in the inside of a golf course to the management building of a golf course using an electric wave (JP,7-175567,A etc.). This system forms a communication network by the repeater currently installed in every place of a management building (management pin center,large) and a golf course which perform an automatic centralized control, and returns the positional information about the current position of the golf cart detected by the repeater to a management building.

[0004] Thereby, a management building can give directions to each golf cart according to an individual while it can grasp the current position of each golf cart and manages operation of each golf cart. It can consider as the automatic centralized control system of the golf cart which can perform efficient operation management by this.

[0005]

[Problem(s) to be Solved by the Invention] By the way, when a wounded person and an emergency case occurred or the player had left crab etc. in the front hole, the caddie was made to contact on a management building conventionally on the golf course which used the caddie using the business-use walkie-talkie currently installed every number hole.

[0006] However, in the automatic centralized control system of the golf cart which does not use a caddie who described above, the player itself needs to provide a certain means and it is necessary to contact a management building. As an approach the player itself contacts a management building, a business-use walkie-talkie (voice transceiver) is carried for every golf cart, and how to contact a management building using this business-use walkie-talkie can be considered, for example. However, while carrying a business-use walkie-talkie in all golf carts required costs very much, since the application of license etc. was needed, the business-use walkie-talkie had the trouble of taking time and effort very much.

[0007] Moreover, since a business-use walkie-talkie is made into one way communication and it considers as half duplex [ which talks by turns ], when an unfamiliar player operates it to actuation of a walkie-talkie, both walkie-talkies serve as a transmitting mode or the receive mode, and it is also considered that it is not able to communicate well.

[0008] When a trouble etc. occurs, for example at the party of a certain player and the player of this party performs urgent communication to a management building further again using a walkie-talkie, the golf cart with which the walkie-talkie used as the receive mode is carried by the same channel as this walkie-talkie will also hear those contents of a message. Such contents of a message are contents not to hear for the player currently played happily.

[0009] Although it was possible to change the channel of the walkie-talkie carried for example, in each golf cart, and to form hot line there, since it was necessary to double the channel of the walkie-talkie of a management building with the channel of the walkie-talkie of a golf cart in that case each time, when requiring emergency, there was a trouble that near actuation, such as management, became complicated.

[0010] This invention is made in view of such a point, and it aims at offering the urgent communication system of the golf cart which can perform necessary urgent communication to a management building by easy actuation on the golf course which has managed operation of a golf cart with the automatic

centralized control system.

[0011]

[Means for Solving the Problem] The urgent communication system of the golf cart of this invention While the positional information from two or more locators which are arranged in the necessary location which met each course of a golf course, and transmit the positional information of each course by the feeble electric wave, and this locator is receivable The golf cart equipped with the transmitter-receiver which can transmit and receive an information signal through a small power electric wave, As an urgent communication system of the golf cart which consists of a management building which receives said positional information from this golf cart through a repeater, and manages operation of said golf cart The handler for urgent communication for performing necessary urgent communication to a golf cart to a management building, It had the control means which can perform the display means which can display the actuation situation of the handler for urgent communication, the transmission control for transmitting the urgent communication information according to actuation of the handler for urgent communication to a management building, and the display control of a display means.

[0012] And the handler for connecting a crab failure to the handler for urgent communication and the handler for connecting the class of crab which he has forgotten were prepared. The handler for connecting the hole in which he has left crab further again was prepared. Moreover, the handler for connecting that the injury or the sudden illness broke out and the handler for demanding communication in a hospital were prepared. Moreover, the handler for connecting failure of a cart and the handler for connecting the slow play of a front party were prepared.

[0013] Moreover, the golf cart was equipped with an information means by which generating of thunder and delay of a play can be reported, with the information signal from a management building. Moreover, the golf cart was equipped with a voice output means to output the voice-told message corresponding to the actuation when the handler for urgent communication was operated.

[0014] This invention can perform [ a player ] necessary urgent communication now to the handler for urgent communication and its handler for urgent communication for performing necessary urgent communication information to a golf cart to a management building to a management building by adding a display means to display an actuation situation etc. by easy actuation.

[0015]

[Embodiment of the Invention] Hereafter, before explaining the gestalt of operation of the urgent communication system of the golf cart of this invention, these people explain briefly the managerial system of the golf course proposed previously, referring to drawing 1 . A course (No. 1 hole (1H) - No. 9 hole (9H)) is shown among two or more golf courses where drawing 1 is constituted by the golf course. As shown in this drawing 1 , the management building 60 which generally has a caddie master room is located in the location near a start hole, and repeaters (repeater) R1 and R2 are arranged in the location which can communicate at the course using the electric wave of the management building 60 and small power, respectively.

[0016] In this example, between the management building 60 and A course, although two sets of repeaters R1 and R2 are equipped with the transmitter-receiver which can communicate mutually, respectively, when it is the course with which it becomes impossible transmitting the information in the remote place of a course, the repeater (child) which is subordinate to the repeater (parents) of Maine may be arranged.

[0017] In addition, the transmitter-receiver installed in each repeaters R1 and R2 For example, while making a wireless manager unnecessary as a transmitter-receiver authorized as a small power type If the transmitter-receiver of a small power mold is used, since distance (500m thru/or 1km) of a communication link will be attained in a golf course, through the course used as the course layout of the usual zigzag method A system can be built now by arranging one piece or about two repeaters R to one course (nine holes).

[0018] The cart road is installed along each hole and it is made for this cart road to have passed through the golf cart K operated in order that a player may perform a self play through A course shown in this example. The locators S1-S27 for detecting the current position of a golf cart K are arranged in

necessary locations, such as a cart road, for example, the road shoulder etc.

[0019] These locators S1-S27 have sent out the feeble electric wave the suitable period, and each golf cart K can acquire positional information by receiving the feeble electric wave sent out from the locator currently installed in this course. That is, the locators S1-S27 currently installed in the course have sent out intermittently self ID which pinpoints the location with very small power, and since it considers as the power which can receive only when a golf cart K passes through the neighborhood, the golf cart K is made as [ receive / by receiving ID of Locator S / currency information ].

[0020] The recognition sign ID without what the management building 60, repeaters R1 and R2, and a golf cart K overlap which is each a meaning is given. A golf cart K receives the trigger signal sent out a fixed period from a repeater R1 or R2, and it is made to have an information signal transmitted using the time slot currently assigned to every golf cart k in time sharing based on this trigger signal. That is, a golf cart K is transmitted to the repeater R1 of each course currently installed in grasp, or R2 from the transmitter for data communication in which each cart is equipped with the information signal which added the identification code ID of each cart to the acquired currency information.

[0021] Thereby, since the positional information of each golf cart K is transmitted to the management building 60 through each repeaters R1 and R2, as for the management building 60, the current position of the golf cart K under play can be grasped in each hole.

[0022] He is trying for this invention to build an urgent communication system between the transmitter-receiver of each golf cart K, and the management building 60 using the managerial system of such a golf course, so that it may mention later.

[0023] Drawing 2 is the external view of the urgent communication equipment carried in a golf cart K, in order to build the urgent communication system of the golf cart of the gestalt of this operation. In addition, let the urgent communication equipment 1 shown in this drawing 2 be equipment with emphasis on the item of the crab failure with the high occurrence frequency of urgent communication. In this drawing 2, sudden illness generating key 2c operated when a sudden illness breaks out in injury generating key 2b and the player which are operated when crab failure key 2a operated when the player has left crab in the front hole, and a player cliff make it the urgent-with display capabilities communication key 2 is prepared. Moreover, a display function which blinked the display, lit up, then said these urgent communication keys 2a-2c according to the actuation situation of a player is added. Thus, it is made as [ tell / visually / to a player / by adding a display function to the urgent communication key 2 / an actuation situation ]. Cart failure key 3a operated when for example, the golf cart K breaks down, and slope rhe key 3b for connecting the slow play of a front party are prepared in the urgent communication key 3.

[0024] Generally the contents of urgent communication notified from a player are collected by injury generating, sudden illness generating, a crab failure, failure of a cart, the slow play of a front party, etc. Especially on the golf course which does not use a caddie, since the golf club is performed under the own management of a player, it becomes surely forgetting crab in a course. Then, he is trying to prepare the key corresponding to these urgent communication in the urgent communication equipment 1 made into the gestalt of this operation as an urgent communication key.

[0025] In addition, although this example explains taking the case of the case where the urgent communication key of such an item is prepared, of course, it is also possible to prepare other urgent communication keys.

[0026] 4 is constituted by light emitting devices, lamps, etc., such as LED, and display 4b which is the information section which can report visually the information sent from the management building 60, for example, tells display 4a which tells a player about thunder having occurred by flashing luminescence of a lamp etc., and that the play is delayed is prepared.

[0027] 5 is a hospital communication key operated when a wounded person and an emergency case occur and it is necessary to contact a hospital, and according to the actuation situation, flashing or lighting, then a display function that was said are added, and it is made as [ tell / an actuation situation / to a player / visually ] so that it may mention later.

[0028] 6 is a crab selection key group for choosing the class of crab to forget, when a player operates

crab failure key 2a, and the key is prepared in every [ of crab ] classes (for example, an iron, wood, a driver, a pitching wedge, a sand wedge, a putter, etc.). These crab selection key groups 6 are operational when a player operates crab failure key 2a, and flashing or lighting, then a display function that was said are added by the actuation situation. It enables it to tell an actuation situation visually to a player by this.

[0029] 7 is a hole selection key group which chooses the hole in which he leaves crab when a player operates the crab selection key group 6, and the hole key operated when the hole (1H-9H) in which he leaves crab is known, the unknown key operated when the hole in which he leaves crab is not known are prepared in this example. And according to the actuation situation, flashing or lighting, then a display function that was said are added, and the player enables it to also tell these hole selection key groups 7 about an actuation situation visually.

[0030] 8 will be used as the confirmation key operated when a predetermined hole key is chosen from the hole selection key group 7 while choosing a predetermined crab key from the crab selection key group 6, after a player operates crab failure key 2a, and when a player operates this confirmation key 8, necessary crab failure information will be transmitted from the transmitter of a golf cart K to the management building 60. In addition, a display function may be added to a confirmation key 8.

[0031] 9 is a loudspeaker and he is trying to output a necessary voice-told message according to actuation of a player so that it may mention later. That is, it enables it to also output voice in the actuation situation of the various actuation keys mentioned above with the gestalt of this operation. Moreover, when the information signal sent from the management building 60 is received, it is also made possible to output the necessary voice-told message according to the information signal.

[0032] Drawing 3 is the block diagram having shown the internal configuration of urgent communication equipment 1 which was described above. In addition, the same number is given to the same part as drawing 2, and explanation is omitted. In this drawing 3, the control section (CPU) by which 21 controls the urgent communication equipment 1 whole of the gestalt of this operation, and 22 mind an antenna ANT1. The radio control section for data communication which can perform two-way communication of the management building 60 and data through a small power electric wave, The feeble electric-wave receive section which receives the positional information to which 23 is sent out by the feeble electric wave from Locator S through the antenna ANT2, ROM which has memorized a program, necessary voice data, etc. for 24 to perform processing necessary in a control section 21, and 25 are RAM which can hold temporarily the positional information which it was constituted as buffer memory and received from Locator S.

[0033] 26 is the speech synthesis section which compounds and outputs a necessary voice-told message with the voice data read from ROM24 by control of a control section 21. 27 is a cart number ID switch (SW) for setting the cart number ID to each golf cart K of every.

[0034] 28 (a, b, c) is the input-control section which controls the input of the various keys prepared in the urgent communication equipment 1 concerned, for example, input-control section 28a is performing the input control of the hole selection key group 7 and a confirmation key 8. Moreover, input-control section 28b is performing the input control of the crab selection key 6, and input-control section 28c is performing the input control of the urgent communication keys 2 and 3 and the hospital communication key 5. In addition, although the three input-control sections 28a-28c constitute the input-control section 28 from the gestalt of this operation, it cannot be overemphasized that it is not limited to such a configuration and can control by the one input-control section.

[0035] 29 is a display and control section which controls the display of the various keys to which the display function is added, and is performing the display control of the urgent communication key 2 to which the display function is added, the hospital communication key 5, the crab selection key group 6, the hole selection key group 7, and a confirmation key 8. In addition, in the urgent communication equipment 1 shown in drawing 2, since the display function is not added to the urgent communication key 3, it is not necessary to form the display 31 of cart failure key 3a enclosed with an alternate long and short dash line, and slope the key 3b.

[0036] Next, the outline configuration of the equipment built in drawing 4 at each repeater R is shown in

a block diagram. In this drawing 4 , R51 transmits the electric wave by which small power is approved, and the transceiver section which can receive, and R52 perform signal processing of adding self ID to the information which should be transmitted based on the signal which is the control processing circuit which performs signal processing of the information which should be transmitted and received, and was set up from the outside of equipment item number configuration-switch (SW) R53 and mode change-over-switch (SW) R54 grade etc. Moreover, at the time of reception, signal processing which extracts and decodes the information in which self ID is contained is also performed. The semi- place of a frequency, channel assignment, etc. to be used may be carried out to STD-16 which are the standard price of for example, the object for telemeters, and the radio equipment for tele control, or STD-17, and they may be set as them.

[0037] R55 is a power circuit, and when obtaining power-source energy from a solar battery R57, the accumulation-of-electricity equipment, a converter, etc. are contained. Moreover, in the case of the alternation power source currently supplied as source-power-supply energy, an AC-DC inverter etc. is incorporated. Moreover, although R56 is an input/display, and it is used as a terminal which operates Repeater R in order that a manager may change a communication mode or may usually cope with it at the time of the adjustment at the time of repeater installation, and failure generating, it is not needed especially by the usual operational status.

[0038] As described above, while the control processing circuit R52 receives the packet to which the recognition sign ID of a self-opportunity was given, when there is information which should be transmitted to a golf cart K, it is made to have the sending-out information for it created.

[0039] Next, it is what showed the block diagram of the outline configuration of the management building 60 to drawing 5 , and main configurations constitute the transmitter-receiver of small power like the repeater R shown in drawing 4 , and the same functional division is written as M51, M52, M53, and M54. In order that the terminal part of this management building 60 may perform overall management of a golf course, a personal computer (a monitoring device, a keyboard, and other computer peripheral devices are included) M56 is connected to the control processing circuit M52 through an input/output interface, and equipment is built so that an exchange of data may be performed.

[0040] The overall course layout of a golf course is inputted beforehand, and consists of the large-sized plotting boards, and the positional information plotting board M58 connected to the personal computer M56 is made as [ display / the location of two or more carts / to this plotting board / as a flashing signal ]. Moreover, if there is the emergency intelligence plotting board M59 with a cart number by urgent communication called, the contents, for example, crab \*\*\*\*\*, of urgent communication, when urgent communication information is received from a golf cart K, the class of crab and the information like a hole which he has forgotten will be displayed.

[0041] He is trying to transmit urgent communication information to the transmitter-receiver of the management building 60 through Repeater R with the gestalt of this operation with the urgent communication equipment 1 carried in the above-mentioned golf cart K for a wounded person and an emergency case to occur in the player of a golf course, and contact the management building 60.

[0042] by the way, in the train traffic control system of the golf cart which these people proposed previously Although each golf cart K is received to the trigger signal sent out a fixed period from Repeater R and he is trying to transmit positional information etc. using the slot for data communication assigned to each golf cart K of every in time sharing based on this trigger signal as mentioned above With the gestalt of this operation, the time slot for urgent communication is prepared between the time slots for data communication of each of this golf cart K of every, and it is made to perform urgent communication between each golf cart K and the management building 60, for example.

[0043] Moreover, although it will transmit to the transmitter-receiver in which the golf cart K is equipped with the reply information which shows that it received when the urgent communication information from a golf cart K is received, it is made to perform the management building 60 using the time slot for urgent communication also in this case. Thereby, the urgent communication information transmitted from a golf cart K to the management building 60 and the reply information transmitted from the management building 60 to a golf cart K can be promptly transmitted now.



[0044] Moreover, you may make it assign a predetermined period to the time slot for urgent communication among the fixed periods to which a trigger signal is sent out from Repeater R. Moreover, it is also possible to transmit and receive urgent communication information using the slot for data communication currently assigned to each golf cart K of every, and transmission, then a thing which said are also considered only in urgent communication information, without transmitting urgent communication information with the positional information of a golf cart K, or transmitting positional information in that case.

[0045] The processing actuation for the urgent communication in the control section 21 of the urgent communication equipment 1 hereafter made into a gestalt of this operation which was described above is explained referring to drawing 6. In this case, a control section 21 performs processing which compounds the necessary voice-told message according to the urgent communication key operated by progressing to step S102 in the speech synthesis section 26, and is outputted from a loudspeaker 9, when it distinguishes whether the urgent communication key was operated in step S101 and distinguishes that which urgent communication key was operated. At this time, as a voice-told message outputted from a loudspeaker 9, supposing crab failure key 2a is operated, for example, the voice-told message like "the crab failure key was operated" will be outputted.

[0046] Next, in step S103, when it distinguishes that they are cart failure key 3a or slope rhe key 3b and it is distinguished from cart failure key 3a or slope rhe key 3b it, the operated urgent communication key progresses to step S104, and performs control which transmits necessary urgent communication data to the management building 60. [ it ] That is, when the urgent communication data corresponding to [ when it distinguished that cart failure key 3a was operated by the player ] cart failure are distinguished as slope rhe key 3b was operated, the urgent communication data corresponding to it are transmitted to the management building 60.

[0047] And if there is reply information which shows that it received normally from the management building 60, since a necessary voice-told message is outputted, it will be made to progress to step S106, and to be distinguished in step S105, again that it is cart failure. And when it distinguishes from cart failure, it progresses to step S107, for example, "official in charge is going. Processing which compounds the voice-told message wait for a while", in the speech synthesis section 26, and is outputted from a loudspeaker 9 will be performed, and it will return to step S101.

[0048] "front party was advised, when it, on the other hand, distinguished that slope rhe key 3b was operated when it was not cart failure and distinguishes in step S106 that is,. Processing which compounds the voice-told message continue a play then", in the speech synthesis section 26, and is outputted from a loudspeaker 9 will be performed, and it will return to step S101.

[0049] On the other hand, when cart failure key 3a or slope rhe key 3b was not operated and it distinguishes in step S103 Display-control processing which makes the urgent communication key operated by progressing to step S109 turn on, That is, when a display control, injury generating key 2b, and sudden illness generating key 2c which make crab failure key 2a turn on when crab failure key 2a is operated are operated, a display control which makes those keys turn on is performed.

[0050] And in step S110, when the operated urgent communication key distinguishes that it is crab failure key 2a and distinguishes from crab failure key 2a, crab failure processing which progresses to step S112 and is mentioned later will be performed, and it will return to step S101. On the other hand, when it was not crab failure key 2a and distinguishes in step S110, the injury or sudden illness generating processing which progresses to step S111 and is mentioned later is performed, and it progresses to step S107. And "official in charge is going in step S107. Control which compounds the voice-told message wait for a while", in the speech synthesis section 26, and is outputted from a loudspeaker 9 will be performed, and it will return to step S101.

[0051] Drawing 7 is the flow chart which showed main processing actuation of the subroutine of the injury or sudden illness generating processing shown in step S111 of above-mentioned drawing 6. In this case, in step S201, a control section 21 performs control which compounds the voice-told message "whether a hospital is contacted" in the speech synthesis section 26, and is outputted from a loudspeaker 9 in step S202, after performing a display control which blinks the hospital communication key 5.

[0052] Next, in step S203, after starting flashing of the hospital communication key 5, it distinguishes whether predetermined time progress was carried out, and if predetermined time progress had not been carried out, although it progressed to step S206 and the hospital communication key 5 was operated, how or distinction is performed. And if the hospital communication key 5 is not operated, it will return to step S203. After getting it blocked, for example, blinking the hospital communication key 5, it is distinguishing whether the hospital communication key 5 was operated within predetermined time.

[0053] And in step S206, when it distinguishes that the hospital communication key 5 was operated, after performing a display control which it progresses [ display control ] to step S207 and makes the hospital communication key 5 turn on, it progresses to step S204 and necessary urgent communication data are transmitted to the management building 60. That is, since the hospital communication key 5 was operated in this case, the urgent communication data according to it are transmitted to the management building 60, and when there is reply information which shows that it received normally from the management building 60, in step S205, processing after return and step S107 will be performed to the processing shown in above-mentioned drawing 6.

[0054] On the other hand, when it distinguishes having carried out predetermined time progress in step S203, it progresses to step S204, and necessary urgent communication data are transmitted to the management building 60. That is, since the hospital communication key 5 is not operated in this case, the urgent communication data according to it are transmitted to the management building 60, and when there is reply information which shows that it received normally from the management building 60, in step S205, processing after return and step S107 will be performed to the processing shown in above-mentioned drawing 6. Thereby, on the management building 60, an official in charge can be made to be able to go to the basis of a player, or suitable treatment of contacting a hospital can be promptly performed now.

[0055] Drawing 8 is the flow chart which showed main processing actuation of the subroutine of the crab failure processing shown in step S112 of above-mentioned drawing 6. In this case, in step S301, a control section 21 performs control which progresses to step S302, for example, compounds the voice-told message "choose the class of crab which he has forgotten" in the speech synthesis section 26, and is outputted from a loudspeaker 9, after performing a display control which blinks the crab selection key group 6.

[0056] Next, in step S303, when it distinguishes that which crab selection key of the crab selection key group 6 was operated, a display control which makes the crab key chosen at step S304 turn on is performed, and it progresses to step S305. And after performing a display control which blinks the hole selection key group 7 in step S305, control which progresses to step S306, for example, compounds the voice-told message "choose the location which he has forgotten" in the speech synthesis section 26, and is outputted from a loudspeaker 9 is performed. This will choose the hole considered that the player has forgotten crab from the hole key which is blinking.

[0057] Next, a control section 21 performs control which performs a display control which makes the selected hole key turn on, and progresses to step S309, for example, compounds the voice-told message "push a confirmation key" in the speech synthesis section 26, and is outputted from a loudspeaker 9 in step S308, when it distinguishes that the hole key was operated in step S307.

[0058] And in step S310, if it distinguishes whether the confirmation key 8 was operated and the confirmation key 8 is not operated, after progressing to step S311, for example, turning on a hole key in step S308, it distinguishes whether predetermined time progress was carried out.

[0059] Here, if predetermined time progress has not been carried out, it returns to step S310, and processing from step S310 is performed again. In step S310, such processing is performed until it distinguishes that the confirmation key 8 was operated or distinguishes having carried out predetermined time progress in step S311.

[0060] And in step S311, when it distinguishes having carried out predetermined time progress, control which progresses to step S312, for example, compounds the voice-told message "rechoose from the class of crab" in the speech synthesis section 26, and is outputted from a loudspeaker 9 will be performed, and processing from return and step S301 will be performed to step S301.

[0061] On the other hand, when it distinguishes that the confirmation key 8 was operated in step 310, it progresses to step S313 and necessary urgent communication data are transmitted to the management building 60. That is, to the urgent communication data in this case, control which the class of crab to forget and the information on a hole to forget are added, and is transmitted to the management building 60 with the information of a crab failure will be performed.

[0062] And in step S314, after performing control which compounds the voice-told message "continue a play as it is" in the speech synthesis section 26, and is outputted from a loudspeaker 9, it will return to the processing shown in above-mentioned drawing 6.

[0063] Thereby, on the management building 60, since it grasped that the player has forgotten crab, it could be said that crab is looked for, or an official in charge announced a necessary voice-told message in the cart currently played through the corresponding course, and had crab looked for based on the information.

[0064] Thus, according to the urgent communication equipment 1 made into the gestalt of this operation, when the situation which needs urgent communication occurs, a player is easy actuation of operating the urgent communication key prepared in urgent communication equipment 1, and can perform urgent communication to the management building 60. Moreover, since the voice output function is prepared while preparing a display function in an urgent communication key, a player can grasp an actuation situation etc. easily.

[0065] Drawing 9 is the external view of the short form urgent communication equipment made into the gestalt of other operations of this invention. The short form urgent communication equipment 40 shown in this drawing 9 is also carried in the golf cart K. In addition, the same number is given to the same section as the urgent communication equipment 1 shown in drawing 2, and explanation is omitted.

[0066] It considers as the configuration which can tell a player about an actuation situation by not preparing a voice output function in the short form urgent communication equipment 40 shown in this drawing 9, but showing it the actuation situation of an actuation key visually.

[0067] Therefore, he is trying to prepare a display function in urgent communication key 3a which tells failure of a golf cart K, and front PATI slope rhe key 3b which tells the slow play of a front party. Moreover, the hole selection key group 7 prepared in the urgent communication equipment 1 shown in above-mentioned drawing 2 is not formed. A player will be a hole before the hole which is carrying out the current play, and if the class of crab which he has forgotten understands the hole in which this leaves crab, it will be for making the hole to forget possible [ a certain thing / carrying out an extent guess ].

[0068] While deleting the hole selection key group 7 and confirmation key 8 enclosed with an alternate long and short dash line, and the speech synthesis section 26 and a loudspeaker 9 from the block diagram shown in above-mentioned drawing 3 as an internal configuration of such short form urgent communication equipment 40, it is realizable by adding the display function of cart failure key 3a and slope rhe key 3b of a front party.

[0069] Hereafter, the processing actuation for the urgent communication in the control section 21 of such short form urgent communication equipment 40 is explained, referring to drawing 10. or [ in this case, / that, as for the control section 21, the urgent communication key was operated in step S401 ] -- distinction of how is performed, and when it distinguishes that which urgent communication key was operated, control which blinks the urgent communication key operated by progressing to step S402 is performed.

[0070] Next, in step S403, when it distinguishes that they are cart failure key 3a or slope rhe key 3b and distinguishes it from cart failure key 3a or slope rhe key 3b, the operated urgent communication key shifts to step S408, and transmits necessary urgent communication data to the management building 60. [ it ] That is, when the urgent communication data for telling cart failure when it distinguishes from cart failure key 3a in this case are distinguished from slope rhe key 3b, the urgent communication data for telling it are transmitted to the management building 60.

[0071] and the key (in this case, cart failure key 3a or slope rhe key 3b) which is progressing to step S410 and is blinking is made to switch off in step S409, if there is reply information which shows that it received normally from the management building 60 after making the light switch on, predetermined

time and -- like -- processing will be performed and it will return to step S401. Therefore, a player can recognize that urgent communication was transmitted to the management building 60 by seeing the display of cart failure key 3a or slope rhe key 3b.

[0072] On the other hand, when cart failure key 3a or slope rhe key 3b was not operated and it distinguishes in step S403, the urgent communication key operated by progressing to step S404 distinguishes that it is injury generating key 2b or sudden illness generating key 2c. Here, if the operated urgent communication key cliff is generating key 2b or sudden illness generating key 2c, it will progress to step S411 and a display control which makes the hospital communication key 5 turn on will be performed.

[0073] Next, when it distinguishes whether the hospital communication key 5 was operated in step S412, the hospital communication key 5 was not operated and it distinguishes, after progressing to step S414, for example, making the hospital communication key 5 turn on in step S411, it distinguishes whether predetermined time progress was carried out, and if predetermined time progress has not been carried out, it will return to processing of step S412. In step S412, such processing will be performed until it distinguishes that the hospital communication key 5 was operated or distinguishes having carried out predetermined time progress in step S414.

[0074] And in step S414, when it distinguishes having carried out predetermined time progress, after performing a display control which it progresses [ display control ] to step S415 and makes the hospital communication key 5 switch off, it progresses to step S408 and necessary urgent communication data are transmitted to the management building 60. That is, since the hospital communication key 5 is not operated in this case, although the injury or the sudden illness has broken out, the urgent communication data that he has no need for communication are transmitted to a hospital to the management building 60.

[0075] And in step S409, when there is reply information from the management building 60, after carrying out predetermined time lighting of the key (in this case, injury generating key 2b or sudden illness generating key 2c) which progresses to step S410 and is blinking, the display control of making the light put out will be performed, and it will return to step S401. Therefore, a player can recognize that urgent communication was transmitted to the management building 60 in this case by seeing the display of injury generating key 2b or sudden illness generating key 2c.

[0076] On the other hand, when it distinguishes that the hospital communication key 5 was operated in step S412, it progresses to step S413, and it progresses to step S408, after performing a display control which blinks the hospital communication key 5 from lighting. And in step S408, necessary urgent communication data are transmitted to the management building 60. That is, since the hospital communication key 5 is operated in this case, the injury or the emergency case has occurred and urgent communication data called those of communication with the need are transmitted to a hospital to the management building 60. And in step S409, when there is reply information from the management building 60, after carrying out predetermined time lighting of the key (in this case, injury generating key 2b, or sudden illness generating key 2c and the hospital communication key 5) which progresses to step S410 and is blinking, the display control of making the light put out will be performed.

[0077] On the other hand, in step S404, when it was not injury generating key 2b or sudden illness generating key 2c and distinguishes, the operated urgent communication key progresses to step S405, and after it performs a display control which makes the crab selection key 6 turn on, it progresses to step S406. And in step S406, if it distinguishes whether the crab selection key 6 was operated and the crab selection key 6 is operated, in step S407, a display control which will be in a flashing condition from a lighting condition about the selected crab key will be performed, and it will progress to step S408. In step S408, necessary urgent communication data are transmitted to the management building 60. That is, the information on the class of crab which he forgets with the information of a crab failure in this case will be transmitted as urgent communication data. And in step S409, when there is reply information from the management building 60, after carrying out predetermined time lighting of the key (in this case, crab failure key 2a and the crab key of the crab selection key group 6) which progresses to step S410 and is blinking, the display control of making the light put out will be performed. Therefore, a player

can recognize that urgent communication was transmitted to the management building 60 in this case by seeing crab failure key 2a and the selected display of a crab key.

[0078] Thus, according to the short form urgent communication equipment 40 made into the gestalt of other operations of this invention, when the situation which needs urgent communication occurs, a player is easy actuation of operating the urgent communication key of short form urgent communication equipment 40, and can perform urgent communication to the management building 60. Moreover, since the display function is added to the urgent communication key, while a player can grasp an actuation situation etc. by seeing this display mode, it can recognize that urgent communication was normally transmitted to the management building 60.

[0079] In addition, in the gestalt of this operation, although one course (A course) of a golf course was mentioned as the example and explained, it cannot be overemphasized that the urgent communication system corresponding to two or more courses can be built. Moreover, it is not limited to what mentioned the urgent communication key prepared in urgent communication equipment as a gestalt of this operation.

[0080]

[Effect of the Invention] As mentioned above, according to the golf course urgent communication system of this invention which was explained, it has each following effectiveness. According to this invention according to claim 1, the urgent communication system which can transmit urgent communication necessary by easy actuation to a management building by adding the display means which can display the actuation situation of the handler for urgent communication for performing necessary urgent communication to a golf cart to a management building and the handler for urgent communication etc. can be cheaply built now.

[0081] Moreover, according to this invention according to claim 5, the user-friendly urgent communication system for a player can be built from claim 2 by preparing the handler for urgent communication corresponding to the contents of urgent communication.

[0082] Moreover, since he is trying to establish an information means by which generating of thunder and delay of a play can be reported, with the information signal from a management building according to this invention according to claim 6, urgent communication can also be performed according to an individual from a management building all at once to a player.

[0083] When the handler for urgent communication is operated according to this invention according to claim 7, a player can also make the present actuation situation etc. recognize with voice further again by establishing a voice output means to output the voice-told message corresponding to the actuation.

## TECHNICAL FIELD

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[Field of the Invention] This invention relates to the urgent communication system of the golf cart with which a player can perform urgent communication from a golf cart to a management building.

[0002]

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**PRIOR ART**

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[Description of the Prior Art] On the golf course in recent years, in order to reduce the management cost, the case where a golf course is managed without using a caddie is often considered. In this case, on a golf course, although it plays while a player conveys the golf bag which contained the golf club with a golf cart, a player needs to get to know the play location of a precedence group into playing efficiently.

[0003] Then, these people are performing the proposal which transmits the positional information of the golf cart which is moving previously in the inside of a golf course to the management building of a golf course using an electric wave (JP,7-175567,A etc.). This system forms a communication network by the repeater currently installed in every place of a management building (management pin center,large) and a golf course which perform an automatic centralized control, and returns the positional information about the current position of the golf cart detected by the repeater to a management building.

[0004] Thereby, a management building can give directions to each golf cart according to an individual while it can grasp the current position of each golf cart and manages operation of each golf cart. It can consider as the automatic centralized control system of the golf cart which can perform efficient operation management by this.

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## EFFECT OF THE INVENTION

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[Effect of the Invention] As mentioned above, according to the golf course urgent communication system of this invention which was explained, it has each following effectiveness. According to this invention according to claim 1, the urgent communication system which can transmit urgent communication necessary by easy actuation to a management building by adding the display means which can display the actuation situation of the handler for urgent communication for performing necessary urgent communication to a golf cart to a management building and the handler for urgent communication etc. can be cheaply built now.

[0081] Moreover, according to this invention according to claim 5, the user-friendly urgent communication system for a player can be built from claim 2 by preparing the handler for urgent communication corresponding to the contents of urgent communication.

[0082] Moreover, since he is trying to establish an information means by which generating of thunder and delay of a play can be reported, with the information signal from a management building according to this invention according to claim 6, urgent communication can also be performed according to an individual from a management building all at once to a player.

[0083] When the handler for urgent communication is operated according to this invention according to claim 7, a player can also make the present actuation situation etc. recognize with voice further again by establishing a voice output means to output the voice-told message corresponding to the actuation.



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## TECHNICAL PROBLEM

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[Problem(s) to be Solved by the Invention] By the way, when a wounded person and an emergency case occurred or the player had left crab etc. in the front hole, the caddie was made to contact on a management building conventionally on the golf course which used the caddie using the business-use walkie-talkie currently installed every number hole.

[0006] However, in the automatic centralized control system of the golf cart which does not use a caddie who described above, the player itself needs to provide a certain means and it is necessary to contact a management building. As an approach the player itself contacts a management building, a business-use walkie-talkie (voice transceiver) is carried for every golf cart, and how to contact a management building using this business-use walkie-talkie can be considered, for example. However, while carrying a business-use walkie-talkie in all golf carts required costs very much, since the application of license etc. was needed, the business-use walkie-talkie had the trouble of taking time and effort very much.

[0007] Moreover, since a business-use walkie-talkie is made into one way communication and it considers as half duplex [ which talks by turns ], when an unfamiliar player operates it to actuation of a walkie-talkie, both walkie-talkies serve as a transmitting mode or the receive mode, and it is also considered that it is not able to communicate well.

[0008] When a trouble etc. occurs, for example at the party of a certain player and the player of this party performs urgent communication to a management building further again using a walkie-talkie, the golf cart with which the walkie-talkie used as the receive mode is carried by the same channel as this walkie-talkie will also hear those contents of a message. Such contents of a message are contents not to hear for the player currently played happily.

[0009] Although it was possible to change the channel of the walkie-talkie carried for example, in each golf cart, and to form hot line there, since it was necessary to double the channel of the walkie-talkie of a management building with the channel of the walkie-talkie of a golf cart in that case each time, when requiring emergency, there was a trouble that near actuation, such as management, became complicated.

[0010] This invention is made in view of such a point, and it aims at offering the urgent communication system of the golf cart which can perform necessary urgent communication to a management building by easy actuation on the golf course which has managed operation of a golf cart with the automatic centralized control system.

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MEANS

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[Means for Solving the Problem] The urgent communication system of the golf cart of this invention While the positional information from two or more locators which are arranged in the necessary location which met each course of a golf course, and transmit the positional information of each course by the feeble electric wave, and this locator is receivable The golf cart equipped with the transmitter-receiver which can transmit and receive an information signal through a small power electric wave, As an urgent communication system of the golf cart which consists of a management building which receives said positional information from this golf cart through a repeater, and manages operation of said golf cart The handler for urgent communication for performing necessary urgent communication to a golf cart to a management building, It had the control means which can perform the display means which can display the actuation situation of the handler for urgent communication, the transmission control for transmitting the urgent communication information according to actuation of the handler for urgent communication to a management building, and the display control of a display means.

[0012] And the handler for connecting a crab failure to the handler for urgent communication and the handler for connecting the class of crab which he has forgotten were prepared. The handler for connecting the hole in which he has left crab further again was prepared. Moreover, the handler for connecting that the injury or the sudden illness broke out and the handler for demanding communication in a hospital were prepared. Moreover, the handler for connecting failure of a cart and the handler for connecting the slow play of a front party were prepared.

[0013] Moreover, the golf cart was equipped with an information means by which generating of thunder and delay of a play can be reported, with the information signal from a management building. Moreover, the golf cart was equipped with a voice output means to output the voice-told message corresponding to the actuation when the handler for urgent communication was operated.

[0014] This invention can perform [ a player ] necessary urgent communication now to the handler for urgent communication and its handler for urgent communication for performing necessary urgent communication information to a golf cart to a management building to a management building by adding a display means to display an actuation situation etc. by easy actuation.

[0015]

[Embodiment of the Invention] Hereafter, before explaining the gestalt of operation of the urgent communication system of the golf cart of this invention, these people explain briefly the managerial system of the golf course proposed previously, referring to drawing 1 . A course (No. 1 hole (1H) - No. 9 hole (9H)) is shown among two or more golf courses where drawing 1 is constituted by the golf course. As shown in this drawing 1 , the management building 60 which generally has a caddie master room is located in the location near a start hole, and repeaters (repeater) R1 and R2 are arranged in the location which can communicate at the course using the electric wave of the management building 60 and small power, respectively.

[0016] In this example, between the management building 60 and A course, although two sets of repeaters R1 and R2 are equipped with the transmitter-receiver which can communicate mutually, respectively, when it is the course with which it becomes impossible transmitting the information in the remote place of a course, the repeater (child) which is subordinate to the repeater (parents) of Maine may be arranged.

[0017] In addition, the transmitter-receiver installed in each repeaters R1 and R2 For example, while making a wireless manager unnecessary as a transmitter-receiver authorized as a small power type If the transmitter-receiver of a small power mold is used, since distance (500m thru/or 1km) of a communication link will be attained in a golf course, through the course used as the course layout of the usual zigzag method A system can be built now by arranging one piece or about two repeaters R to one course (nine holes).

[0018] The cart road is installed along each hole and it is made for this cart road to have passed through the golf cart K operated in order that a player may perform a self play through A course shown in this

example. The locators S1-S27 for detecting the current position of a golf cart K are arranged in necessary locations, such as a cart road, for example, the road shoulder etc.

[0019] These locators S1-S27 have sent out the feeble electric wave the suitable period, and each golf cart K can acquire positional information by receiving the feeble electric wave sent out from the locator currently installed in this course. That is, the locators S1-S27 currently installed in the course have sent out intermittently self ID which pinpoints the location with very small power, and since it considers as the power which can receive only when a golf cart K passes through the neighborhood, the golf cart K is made as [ receive / by receiving ID of Locator S / currency information ].

[0020] The recognition sign ID without what the management building 60, repeaters R1 and R2, and a golf cart K overlap which is each a meaning is given. A golf cart K receives the trigger signal sent out a fixed period from a repeater R1 or R2, and it is made to have an information signal transmitted using the time slot currently assigned to every golf cart k in time sharing based on this trigger signal. That is, a golf cart K is transmitted to the repeater R1 of each course currently installed in grasp, or R2 from the transmitter for data communication in which each cart is equipped with the information signal which added the identification code ID of each cart to the acquired currency information.

[0021] Thereby, since the positional information of each golf cart K is transmitted to the management building 60 through each repeaters R1 and R2, as for the management building 60, the current position of the golf cart K under play can be grasped in each hole.

[0022] He is trying for this invention to build an urgent communication system between the transmitter-receiver of each golf cart K, and the management building 60 using the managerial system of such a golf course, so that it may mention later.

[0023] Drawing 2 is the external view of the urgent communication equipment carried in a golf cart K, in order to build the urgent communication system of the golf cart of the gestalt of this operation. In addition, let the urgent communication equipment 1 shown in this drawing 2 be equipment with emphasis on the item of the crab failure with the high occurrence frequency of urgent communication. In this drawing 2, sudden illness generating key 2c operated when a sudden illness breaks out in injury generating key 2b and the player which are operated when crab failure key 2a operated when the player has left crab in the front hole, and a player cliff make it the urgent-with display capabilities communication key 2 is prepared. Moreover, a display function which blinked the display, lit up, then said these urgent communication keys 2a-2c according to the actuation situation of a player is added. Thus, it is made as [ tell / visually / to a player / by adding a display function to the urgent communication key 2 / an actuation situation ]. Cart failure key 3a operated when for example, the golf cart K breaks down, and slope rhe key 3b for connecting the slow play of a front party are prepared in the urgent communication key 3.

[0024] Generally the contents of urgent communication notified from a player are collected by injury generating, sudden illness generating, a crab failure, failure of a cart, the slow play of a front party, etc. Especially on the golf course which does not use a caddie, since the golf club is performed under the own management of a player, it becomes surely forgetting crab in a course. Then, he is trying to prepare the key corresponding to these urgent communication in the urgent communication equipment 1 made into the gestalt of this operation as an urgent communication key.

[0025] In addition, although this example explains taking the case of the case where the urgent communication key of such an item is prepared, of course, it is also possible to prepare other urgent communication keys.

[0026] 4 is constituted by light emitting devices, lamps, etc., such as LED, and display 4b which is the information section which can report visually the information sent from the management building 60, for example, tells display 4a which tells a player about thunder having occurred by flashing luminescence of a lamp etc., and that the play is delayed is prepared.

[0027] 5 is a hospital communication key operated when a wounded person and an emergency case occur and it is necessary to contact a hospital, and according to the actuation situation, flashing or lighting, then a display function that was said are added, and it is made as [ tell / an actuation situation / to a player / visually ] so that it may mention later.

[0028] 6 is a crab selection key group for choosing the class of crab to forget, when a player operates crab failure key 2a, and the key is prepared in every [ of crab ] classes (for example, an iron, wood, a driver, a pitching wedge, a sand wedge, a putter, etc.). These crab selection key groups 6 are operational when a player operates crab failure key 2a, and flashing or lighting, then a display function that was said are added by the actuation situation. It enables it to tell an actuation situation visually to a player by this.

[0029] 7 is a hole selection key group which chooses the hole in which he leaves crab when a player operates the crab selection key group 6, and the hole key operated when the hole (1H-9H) in which he leaves crab is known, the unknown key operated when the hole in which he leaves crab is not known are prepared in this example. And according to the actuation situation, flashing or lighting, then a display function that was said are added, and the player enables it to also tell these hole selection key groups 7 about an actuation situation visually.

[0030] 8 will be used as the confirmation key operated when a predetermined hole key is chosen from the hole selection key group 7 while choosing a predetermined crab key from the crab selection key group 6, after a player operates crab failure key 2a, and when a player operates this confirmation key 8, necessary crab failure information will be transmitted from the transmitter of a golf cart K to the management building 60. In addition, a display function may be added to a confirmation key 8.

[0031] 9 is a loudspeaker and he is trying to output a necessary voice-told message according to actuation of a player so that it may mention later. That is, it enables it to also output voice in the actuation situation of the various actuation keys mentioned above with the gestalt of this operation. Moreover, when the information signal sent from the management building 60 is received, it is also made possible to output the necessary voice-told message according to the information signal.

[0032] Drawing 3 is the block diagram having shown the internal configuration of urgent communication equipment 1 which was described above. In addition, the same number is given to the same part as drawing 2, and explanation is omitted. In this drawing 3, the control section (CPU) by which 21 controls the urgent communication equipment 1 whole of the gestalt of this operation, and 22 mind an antenna ANT1. The radio control section for data communication which can perform two-way communication of the management building 60 and data through a small power electric wave, The feeble electric-wave receive section which receives the positional information to which 23 is sent out by the feeble electric wave from Locator S through the antenna ANT2, ROM which has memorized a program, necessary voice data, etc. for 24 to perform processing necessary in a control section 21, and 25 are RAM which can hold temporarily the positional information which it was constituted as buffer memory and received from Locator S.

[0033] 26 is the speech synthesis section which compounds and outputs a necessary voice-told message with the voice data read from ROM24 by control of a control section 21. 27 is a cart number ID switch (SW) for setting the cart number ID to each golf cart K of every.

[0034] 28 (a, b, c) is the input-control section which controls the input of the various keys prepared in the urgent communication equipment 1 concerned, for example, input-control section 28a is performing the input control of the hole selection key group 7 and a confirmation key 8. Moreover, input-control section 28b is performing the input control of the crab selection key 6, and input-control section 28c is performing the input control of the urgent communication keys 2 and 3 and the hospital communication key 5. In addition, although the three input-control sections 28a-28c constitute the input-control section 28 from the gestalt of this operation, it cannot be overemphasized that it is not limited to such a configuration and can control by the one input-control section.

[0035] 29 is a display and control section which controls the display of the various keys to which the display function is added, and is performing the display control of the urgent communication key 2 to which the display function is added, the hospital communication key 5, the crab selection key group 6, the hole selection key group 7, and a confirmation key 8. In addition, in the urgent communication equipment 1 shown in drawing 2, since the display function is not added to the urgent communication key 3, it is not necessary to form the display 31 of cart failure key 3a enclosed with an alternate long and short dash line, and slope the key 3b.

[0036] Next, the outline configuration of the equipment built in drawing 4 at each repeater R is shown in a block diagram. In this drawing 4, R51 transmits the electric wave by which small power is approved, and the transceiver section which can receive, and R52 perform signal processing of adding self ID to the information which should be transmitted based on the signal which is the control processing circuit which performs signal processing of the information which should be transmitted and received, and was set up from the outside of equipment item number configuration-switch (SW) R53 and mode change-over-switch (SW) R54 grade etc. Moreover, at the time of reception, signal processing which extracts and decodes the information in which self ID is contained is also performed. The semi- place of a frequency, channel assignment, etc. to be used may be carried out to STD-16 which are the standard price of for example, the object for telemeters, and the radio equipment for tele control, or STD-17, and they may be set as them.

[0037] R55 is a power circuit, and when obtaining power-source energy from a solar battery R57, the accumulation-of-electricity equipment, a converter, etc. are contained. Moreover, in the case of the alternation power source currently supplied as source-power-supply energy, an AC-DC inverter etc. is incorporated. Moreover, although R56 is an input/display, and it is used as a terminal which operates Repeater R in order that a manager may change a communication mode or may usually cope with it at the time of the adjustment at the time of repeater installation, and failure generating, it is not needed especially by the usual operational status.

[0038] As described above, while the control processing circuit R52 receives the packet to which the recognition sign ID of a self-opportunity was given, when there is information which should be transmitted to a golf cart K, it is made to have the sending-out information for it created.

[0039] Next, it is what showed the block diagram of the outline configuration of the management building 60 to drawing 5, and main configurations constitute the transmitter-receiver of small power like the repeater R shown in drawing 4, and the same functional division is written as M51, M52, M53, and M54. In order that the terminal part of this management building 60 may perform overall management of a golf course, a personal computer (a monitoring device, a keyboard, and other computer peripheral devices are included) M56 is connected to the control processing circuit M52 through an input/output interface, and equipment is built so that an exchange of data may be performed.

[0040] The overall course layout of a golf course is inputted beforehand, and consists of the large-sized plotting boards, and the positional information plotting board M58 connected to the personal computer M56 is made as [ display / the location of two or more carts / to this plotting board / as a flashing signal ]. Moreover, if there is the emergency intelligence plotting board M59 with a cart number by urgent communication called, the contents, for example, crab \*\*\*\*\*, of urgent communication, when urgent communication information is received from a golf cart K, the class of crab and the information like a hole which he has forgotten will be displayed.

[0041] He is trying to transmit urgent communication information to the transmitter-receiver of the management building 60 through Repeater R with the gestalt of this operation with the urgent communication equipment 1 carried in the above-mentioned golf cart K for a wounded person and an emergency case to occur in the player of a golf course, and contact the management building 60.

[0042] by the way, in the train traffic control system of the golf cart which these people proposed previously Although each golf cart K is received to the trigger signal sent out a fixed period from Repeater R and he is trying to transmit positional information etc. using the slot for data communication assigned to each golf cart K of every in time sharing based on this trigger signal as mentioned above With the gestalt of this operation, the time slot for urgent communication is prepared between the time slots for data communication of each of this golf cart K of every, and it is made to perform urgent communication between each golf cart K and the management building 60, for example.

[0043] Moreover, although it will transmit to the transmitter-receiver in which the golf cart K is equipped with the reply information which shows that it received when the urgent communication information from a golf cart K is received, it is made to perform the management building 60 using the time slot for urgent communication also in this case. Thereby, the urgent communication information transmitted from a golf cart K to the management building 60 and the reply information transmitted

from the management building 60 to a golf cart K can be promptly transmitted now.

[0044] Moreover, you may make it assign a predetermined period to the time slot for urgent communication among the fixed periods to which a trigger signal is sent out from Repeater R.

Moreover, it is also possible to transmit and receive urgent communication information using the slot for data communication currently assigned to each golf cart K of every, and transmission, then a thing which said are also considered only in urgent communication information, without transmitting urgent communication information with the positional information of a golf cart K, or transmitting positional information in that case.

[0045] The processing actuation for the urgent communication in the control section 21 of the urgent communication equipment 1 hereafter made into a gestalt of this operation which was described above is explained referring to drawing 6. In this case, a control section 21 performs processing which compounds the necessary voice-told message according to the urgent communication key operated by progressing to step S102 in the speech synthesis section 26, and is outputted from a loudspeaker 9, when it distinguishes whether the urgent communication key was operated in step S101 and distinguishes that which urgent communication key was operated. At this time, as a voice-told message outputted from a loudspeaker 9, supposing crab failure key 2a is operated, for example, the voice-told message like "the crab failure key was operated" will be outputted.

[0046] Next, in step S103, when it distinguishes that they are cart failure key 3a or slope rhe key 3b and it is distinguished from cart failure key 3a or slope rhe key 3b it, the operated urgent communication key progresses to step S104, and performs control which transmits necessary urgent communication data to the management building 60. [ it ] That is, when the urgent communication data corresponding to [ when it distinguished that cart failure key 3a was operated by the player ] cart failure are distinguished as slope rhe key 3b was operated, the urgent communication data corresponding to it are transmitted to the management building 60.

[0047] And if there is reply information which shows that it received normally from the management building 60, since a necessary voice-told message is outputted, it will be made to progress to step S106, and to be distinguished in step S105, again that it is cart failure. And when it distinguishes from cart failure, it progresses to step S107, for example, "official in charge is going. Processing which compounds the voice-told message wait for a while", in the speech synthesis section 26, and is outputted from a loudspeaker 9 will be performed, and it will return to step S101.

[0048] "front party was advised, when it, on the other hand, distinguished that slope rhe key 3b was operated when it was not cart failure and distinguishes in step S106 that is,. Processing which compounds the voice-told message continue a play then", in the speech synthesis section 26, and is outputted from a loudspeaker 9 will be performed, and it will return to step S101.

[0049] On the other hand, when cart failure key 3a or slope rhe key 3b was not operated and it distinguishes in step S103 Display-control processing which makes the urgent communication key operated by progressing to step S109 turn on, That is, when a display control, injury generating key 2b, and sudden illness generating key 2c which make crab failure key 2a turn on when crab failure key 2a is operated are operated, a display control which makes those keys turn on is performed.

[0050] And in step S110, when the operated urgent communication key distinguishes that it is crab failure key 2a and distinguishes from crab failure key 2a, crab failure processing which progresses to step S112 and is mentioned later will be performed, and it will return to step S101. On the other hand, when it was not crab failure key 2a and distinguishes in step S110, the injury or sudden illness generating processing which progresses to step S111 and is mentioned later is performed, and it progresses to step S107. And "official in charge is going in step S107. Control which compounds the voice-told message wait for a while", in the speech synthesis section 26, and is outputted from a loudspeaker 9 will be performed, and it will return to step S101.

[0051] Drawing 7 is the flow chart which showed main processing actuation of the subroutine of the injury or sudden illness generating processing shown in step S111 of above-mentioned drawing 6. In this case, in step S201, a control section 21 performs control which compounds the voice-told message "whether a hospital is contacted" in the speech synthesis section 26, and is outputted from a loudspeaker

9 in step S202, after performing a display control which blinks the hospital communication key 5.

[0052] Next, in step S203, after starting flashing of the hospital communication key 5, it distinguishes whether predetermined time progress was carried out, and if predetermined time progress had not been carried out, although it progressed to step S206 and the hospital communication key 5 was operated, how or distinction is performed. And if the hospital communication key 5 is not operated, it will return to step S203. After getting it blocked, for example, blinking the hospital communication key 5, it is distinguishing whether the hospital communication key 5 was operated within predetermined time.

[0053] And in step S206, when it distinguishes that the hospital communication key 5 was operated, after performing a display control which it progresses [ display control ] to step S207 and makes the hospital communication key 5 turn on, it progresses to step S204 and necessary urgent communication data are transmitted to the management building 60. That is, since the hospital communication key 5 was operated in this case, the urgent communication data according to it are transmitted to the management building 60, and when there is reply information which shows that it received normally from the management building 60, in step S205, processing after return and step S107 will be performed to the processing shown in above-mentioned drawing 6.

[0054] On the other hand, when it distinguishes having carried out predetermined time progress in step S203, it progresses to step S204, and necessary urgent communication data are transmitted to the management building 60. That is, since the hospital communication key 5 is not operated in this case, the urgent communication data according to it are transmitted to the management building 60, and when there is reply information which shows that it received normally from the management building 60, in step S205, processing after return and step S107 will be performed to the processing shown in above-mentioned drawing 6. Thereby, on the management building 60, an official in charge can be made to be able to go to the basis of a player, or suitable treatment of contacting a hospital can be promptly performed now.

[0055] Drawing 8 is the flow chart which showed main processing actuation of the subroutine of the crab failure processing shown in step S112 of above-mentioned drawing 6. In this case, in step S301, a control section 21 performs control which progresses to step S302, for example, compounds the voice-told message "choose the class of crab which he has forgotten" in the speech synthesis section 26, and is outputted from a loudspeaker 9, after performing a display control which blinks the crab selection key group 6.

[0056] Next, in step S303, when it distinguishes that which crab selection key of the crab selection key group 6 was operated, a display control which makes the crab key chosen at step S304 turn on is performed, and it progresses to step S305. And after performing a display control which blinks the hole selection key group 7 in step S305, control which progresses to step S306, for example, compounds the voice-told message "choose the location which he has forgotten" in the speech synthesis section 26, and is outputted from a loudspeaker 9 is performed. This will choose the hole considered that the player has forgotten crab from the hole key which is blinking.

[0057] Next, a control section 21 performs control which performs a display control which makes the selected hole key turn on, and progresses to step S309, for example, compounds the voice-told message "push a confirmation key" in the speech synthesis section 26, and is outputted from a loudspeaker 9 in step S308, when it distinguishes that the hole key was operated in step S307.

[0058] And in step S310, if it distinguishes whether the confirmation key 8 was operated and the confirmation key 8 is not operated, after progressing to step S311, for example, turning on a hole key in step S308, it distinguishes whether predetermined time progress was carried out.

[0059] Here, if predetermined time progress has not been carried out, it returns to step S310, and processing from step S310 is performed again. In step S310, such processing is performed until it distinguishes that the confirmation key 8 was operated or distinguishes having carried out predetermined time progress in step S311.

[0060] And in step S311, when it distinguishes having carried out predetermined time progress, control which progresses to step S312, for example, compounds the voice-told message "rechoose from the class of crab" in the speech synthesis section 26, and is outputted from a loudspeaker 9 will be

performed, and processing from return and step S301 will be performed to step S301.

[0061] On the other hand, when it distinguishes that the confirmation key 8 was operated in step 310, it progresses to step S313 and necessary urgent communication data are transmitted to the management building 60. That is, to the urgent communication data in this case, control which the class of crab to forget and the information on a hole to forget are added, and is transmitted to the management building 60 with the information of a crab failure will be performed.

[0062] And in step S314, after performing control which compounds the voice-told message "continue a play as it is" in the speech synthesis section 26, and is outputted from a loudspeaker 9, it will return to the processing shown in above-mentioned drawing 6.

[0063] Thereby, on the management building 60, since it grasped that the player has forgotten crab, it could be said that crab is looked for, or an official in charge announced a necessary voice-told message in the cart currently played through the corresponding course, and had crab looked for based on the information.

[0064] Thus, according to the urgent communication equipment 1 made into the gestalt of this operation, when the situation which needs urgent communication occurs, a player is easy actuation of operating the urgent communication key prepared in urgent communication equipment 1, and can perform urgent communication to the management building 60. Moreover, since the voice output function is prepared while preparing a display function in an urgent communication key, a player can grasp an actuation situation etc. easily.

[0065] Drawing 9 is the external view of the short form urgent communication equipment made into the gestalt of other operations of this invention. The short form urgent communication equipment 40 shown in this drawing 9 is also carried in the golf cart K. In addition, the same number is given to the same section as the urgent communication equipment 1 shown in drawing 2, and explanation is omitted.

[0066] It considers as the configuration which can tell a player about an actuation situation by not preparing a voice output function in the short form urgent communication equipment 40 shown in this drawing 9, but showing it the actuation situation of an actuation key visually.

[0067] Therefore, he is trying to prepare a display function in urgent communication key 3a which tells failure of a golf cart K, and front PATI slope rhe key 3b which tells the slow play of a front party. Moreover, the hole selection key group 7 prepared in the urgent communication equipment 1 shown in above-mentioned drawing 2 is not formed. A player will be a hole before the hole which is carrying out the current play, and if the class of crab which he has forgotten understands the hole in which this leaves crab, it will be for making the hole to forget possible [ a certain thing / carrying out an extent guess ].

[0068] While deleting the hole selection key group 7 and confirmation key 8 enclosed with an alternate long and short dash line, and the speech synthesis section 26 and a loudspeaker 9 from the block diagram shown in above-mentioned drawing 3 as an internal configuration of such short form urgent communication equipment 40, it is realizable by adding the display function of cart failure key 3a and slope rhe key 3b of a front party.

[0069] Hereafter, the processing actuation for the urgent communication in the control section 21 of such short form urgent communication equipment 40 is explained, referring to drawing 10. or [ in this case, / that, as for the control section 21, the urgent communication key was operated in step S401 ] -- distinction of how is performed, and when it distinguishes that which urgent communication key was operated, control which blinks the urgent communication key operated by progressing to step S402 is performed.

[0070] Next, in step S403, when it distinguishes that they are cart failure key 3a or slope rhe key 3b and distinguishes it from cart failure key 3a or slope rhe key 3b, the operated urgent communication key shifts to step S408, and transmits necessary urgent communication data to the management building 60. [ it ] That is, when the urgent communication data for telling cart failure when it distinguishes from cart failure key 3a in this case are distinguished from slope rhe key 3b, the urgent communication data for telling it are transmitted to the management building 60.

[0071] and the key (in this case, cart failure key 3a or slope rhe key 3b) which is progressing to step S410 and is blinking is made to switch off in step S409, if there is reply information which shows that it



received normally from the management building 60 after making the light switch on, predetermined time and -- like -- processing will be performed and it will return to step S401. Therefore, a player can recognize that urgent communication was transmitted to the management building 60 by seeing the display of cart failure key 3a or slope rhe key 3b.

[0072] On the other hand, when cart failure key 3a or slope rhe key 3b was not operated and it distinguishes in step S403, the urgent communication key operated by progressing to step S404 distinguishes that it is injury generating key 2b or sudden illness generating key 2c. Here, if the operated urgent communication key cliff is generating key 2b or sudden illness generating key 2c, it will progress to step S411 and a display control which makes the hospital communication key 5 turn on will be performed.

[0073] Next, when it distinguishes whether the hospital communication key 5 was operated in step S412, the hospital communication key 5 was not operated and it distinguishes, after progressing to step S414, for example, making the hospital communication key 5 turn on in step S411, it distinguishes whether predetermined time progress was carried out, and if predetermined time progress has not been carried out, it will return to processing of step S412. In step S412, such processing will be performed until it distinguishes that the hospital communication key 5 was operated or distinguishes having carried out predetermined time progress in step S414.

[0074] And in step S414, when it distinguishes having carried out predetermined time progress, after performing a display control which it progresses [ display control ] to step S415 and makes the hospital communication key 5 switch off, it progresses to step S408 and necessary urgent communication data are transmitted to the management building 60. That is, since the hospital communication key 5 is not operated in this case, although the injury or the sudden illness has broken out, the urgent communication data that he has no need for communication are transmitted to a hospital to the management building 60.

[0075] And in step S409, when there is reply information from the management building 60, after carrying out predetermined time lighting of the key (in this case, injury generating key 2b or sudden illness generating key 2c) which progresses to step S410 and is blinking, the display control of making the light put out will be performed, and it will return to step S401. Therefore, a player can recognize that urgent communication was transmitted to the management building 60 in this case by seeing the display of injury generating key 2b or sudden illness generating key 2c.

[0076] On the other hand, when it distinguishes that the hospital communication key 5 was operated in step S412, it progresses to step S413, and it progresses to step S408, after performing a display control which blinks the hospital communication key 5 from lighting. And in step S408, necessary urgent communication data are transmitted to the management building 60. That is, since the hospital communication key 5 is operated in this case, the injury or the emergency case has occurred and urgent communication data called those of communication with the need are transmitted to a hospital to the management building 60. And in step S409, when there is reply information from the management building 60, after carrying out predetermined time lighting of the key (in this case, injury generating key 2b, or sudden illness generating key 2c and the hospital communication key 5) which progresses to step S410 and is blinking, the display control of making the light put out will be performed.

[0077] On the other hand, in step S404, when it was not injury generating key 2b or sudden illness generating key 2c and distinguishes, the operated urgent communication key progresses to step S405, and after it performs a display control which makes the crab selection key 6 turn on, it progresses to step S406. And in step S406, if it distinguishes whether the crab selection key 6 was operated and the crab selection key 6 is operated, in step S407, a display control which will be in a flashing condition from a lighting condition about the selected crab key will be performed, and it will progress to step S408. In step S408, necessary urgent communication data are transmitted to the management building 60. That is, the information on the class of crab which he forgets with the information of a crab failure in this case will be transmitted as urgent communication data. And in step S409, when there is reply information from the management building 60, after carrying out predetermined time lighting of the key (in this case, crab failure key 2a and the crab key of the crab selection key group 6) which progresses to step S410

and is blinking, the display control of making the light put out will be performed. Therefore, a player can recognize that urgent communication was transmitted to the management building 60 in this case by seeing crab failure key 2a and the selected display of a crab key.

[0078] Thus, according to the short form urgent communication equipment 40 made into the gestalt of other operations of this invention, when the situation which needs urgent communication occurs, a player is easy actuation of operating the urgent communication key of short form urgent communication equipment 40, and can perform urgent communication to the management building 60. Moreover, since the display function is added to the urgent communication key, while a player can grasp an actuation situation etc. by seeing this display mode, it can recognize that urgent communication was normally transmitted to the management building 60.

[0079] In addition, in the gestalt of this operation, although one course (A course) of a golf course was mentioned as the example and explained, it cannot be overemphasized that the urgent communication system corresponding to two or more courses can be built. Moreover, it is not limited to what mentioned the urgent communication key prepared in urgent communication equipment as a gestalt of this operation.

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[Translation done.]

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## DESCRIPTION OF DRAWINGS

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[Brief Description of the Drawings]

[Drawing 1] It is the explanatory view of the outline of the urgent communication system of the golf course of this invention.

[Drawing 2] It is the external view of the urgent communication equipment carried in the golf cart of the gestalt of this operation.

[Drawing 3] It is the block diagram having shown the internal configuration of the urgent communication equipment of the gestalt of this operation.

[Drawing 4] It is the block diagram having shown the configuration of the repeater of the gestalt of this operation.

[Drawing 5] It is the block diagram having shown the configuration of the management building of the gestalt of this operation.

[Drawing 6] It is a flow chart for explaining the processing actuation for the urgent communication in the urgent communication equipment of the gestalt of this operation.

[Drawing 7] It is a flow chart for explaining the processing actuation for the urgent communication in the urgent communication equipment of the gestalt of this operation.

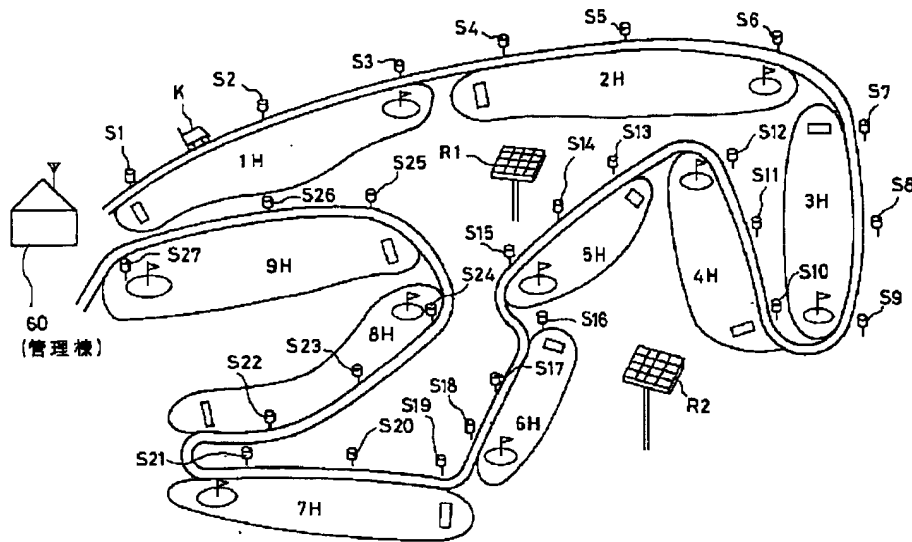
[Drawing 8] It is a flow chart for explaining the processing actuation for the urgent communication in the urgent communication equipment of the gestalt of this operation.

[Drawing 9] It is the external view of the short form urgent communication equipment which is the gestalt of other operations of this invention.

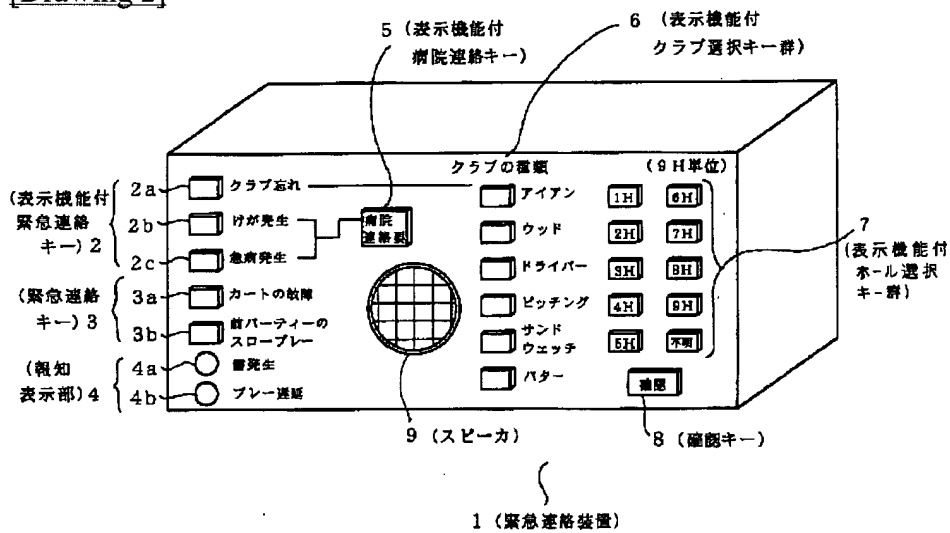
[Drawing 10] It is a flow chart for explaining the processing actuation for the urgent communication in the short form urgent communication equipment of the gestalt of other operations.

[Description of Notations]

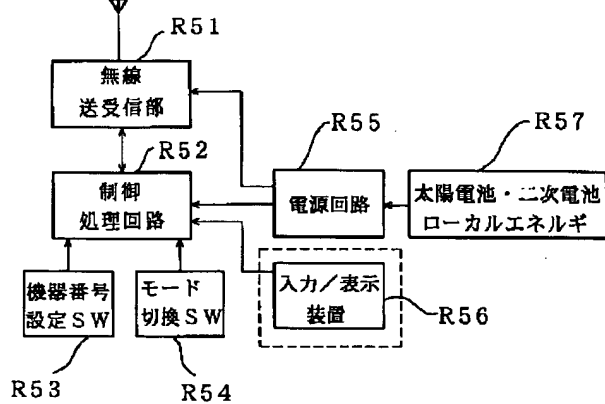
1 Urgent Communication Equipment, 2 Urgent-with Display Function Communication Key, 3 Urgent Communication Key, 4 An information display, 5 A hospital communication key with display capabilities, 6 A crab selection key group with display capabilities, A hole selection key group with 7 display functions, 8 A confirmation key, 9 Loudspeaker, 21 CPU, 22 The radio control section for data communication, 23 A feeble electric-wave receive section, 24 ROM 25RAM, 26 The speech synthesis section, 27 A cart number ID switch, 28 The input-control section, 29 A display and control section, 40 Short form urgent communication equipment



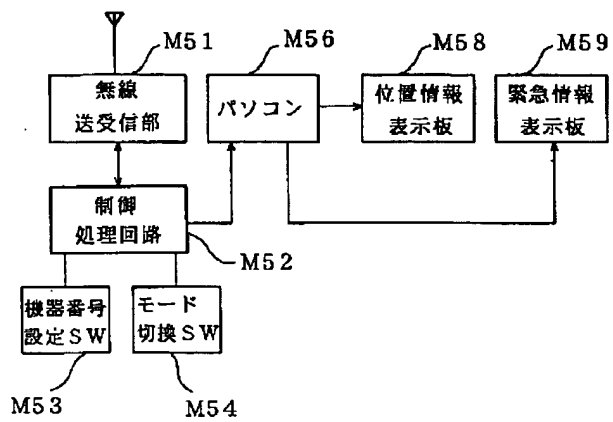
[Drawing 2]



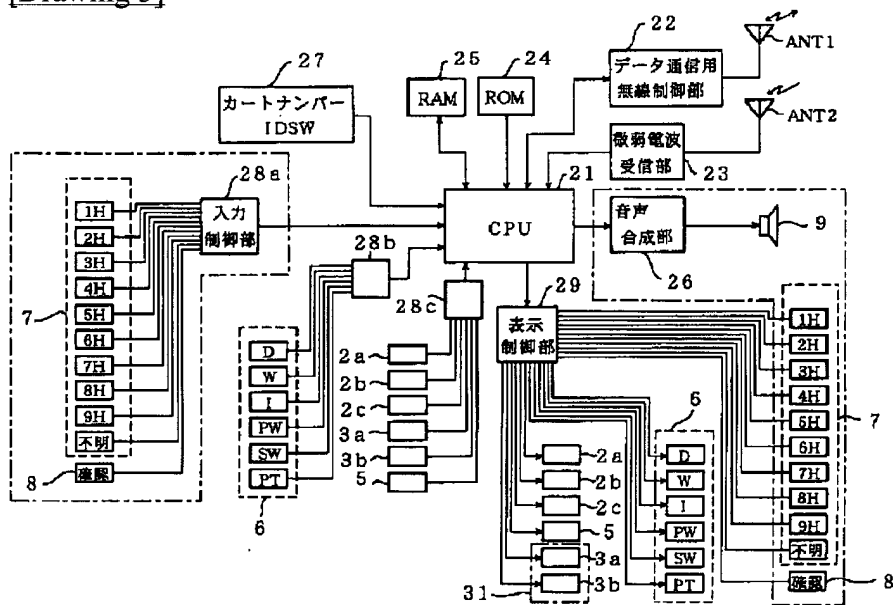
[Drawing 4]



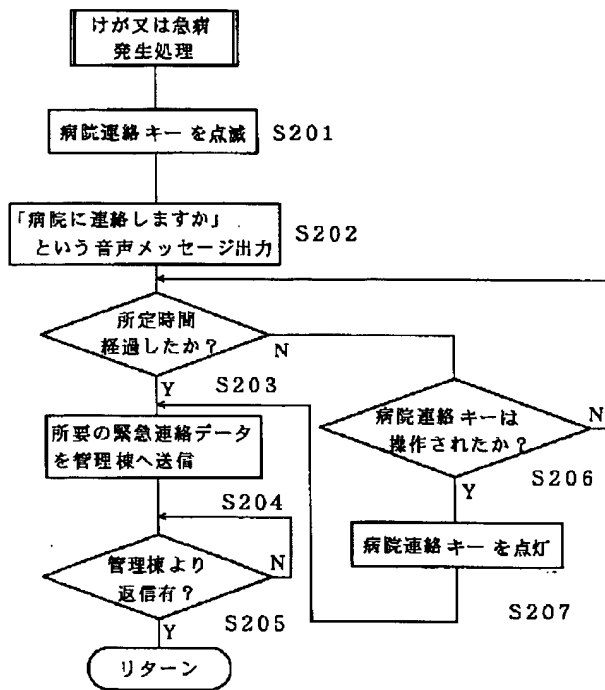
[Drawing 5]



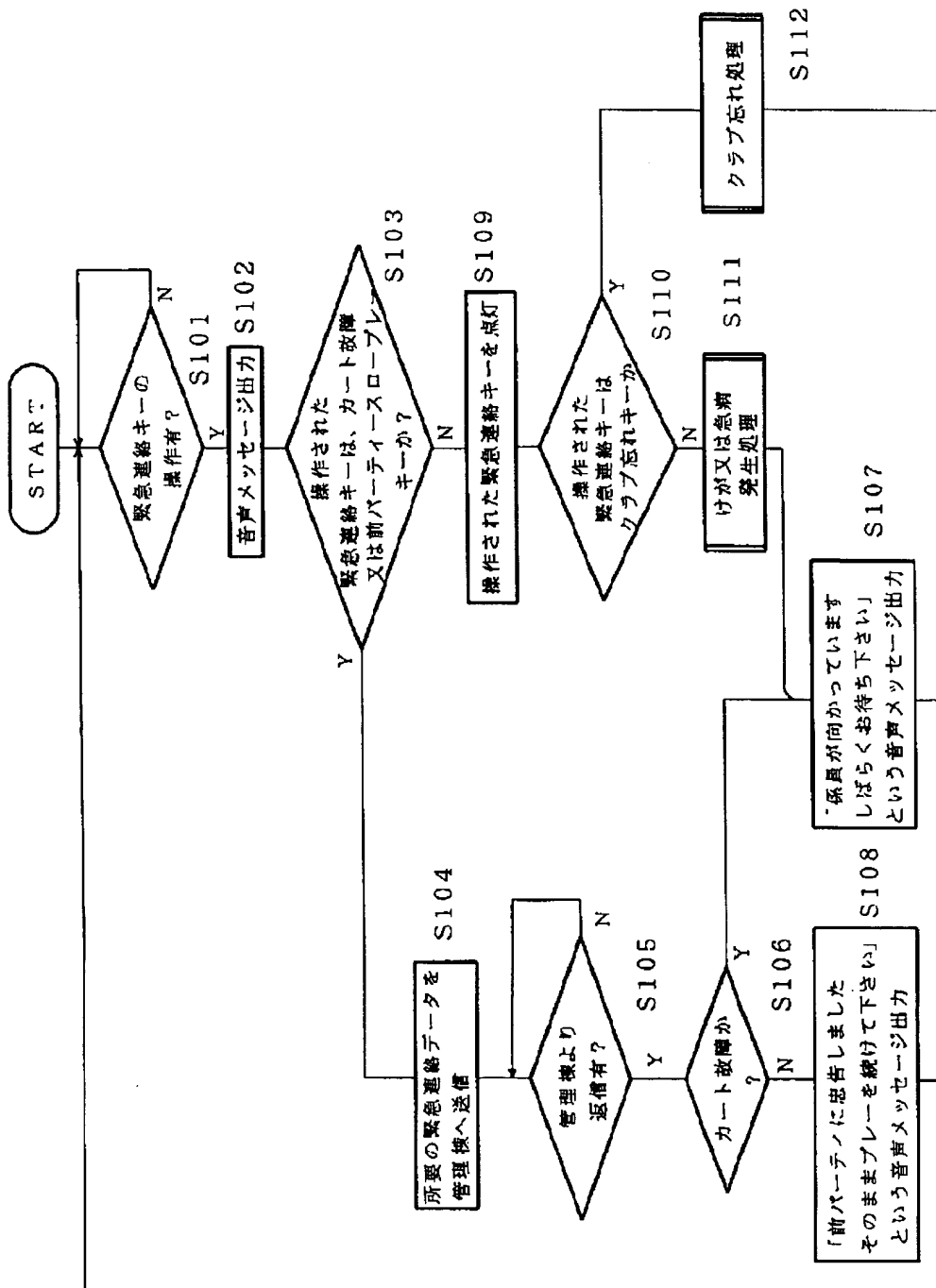
[Drawing 3]



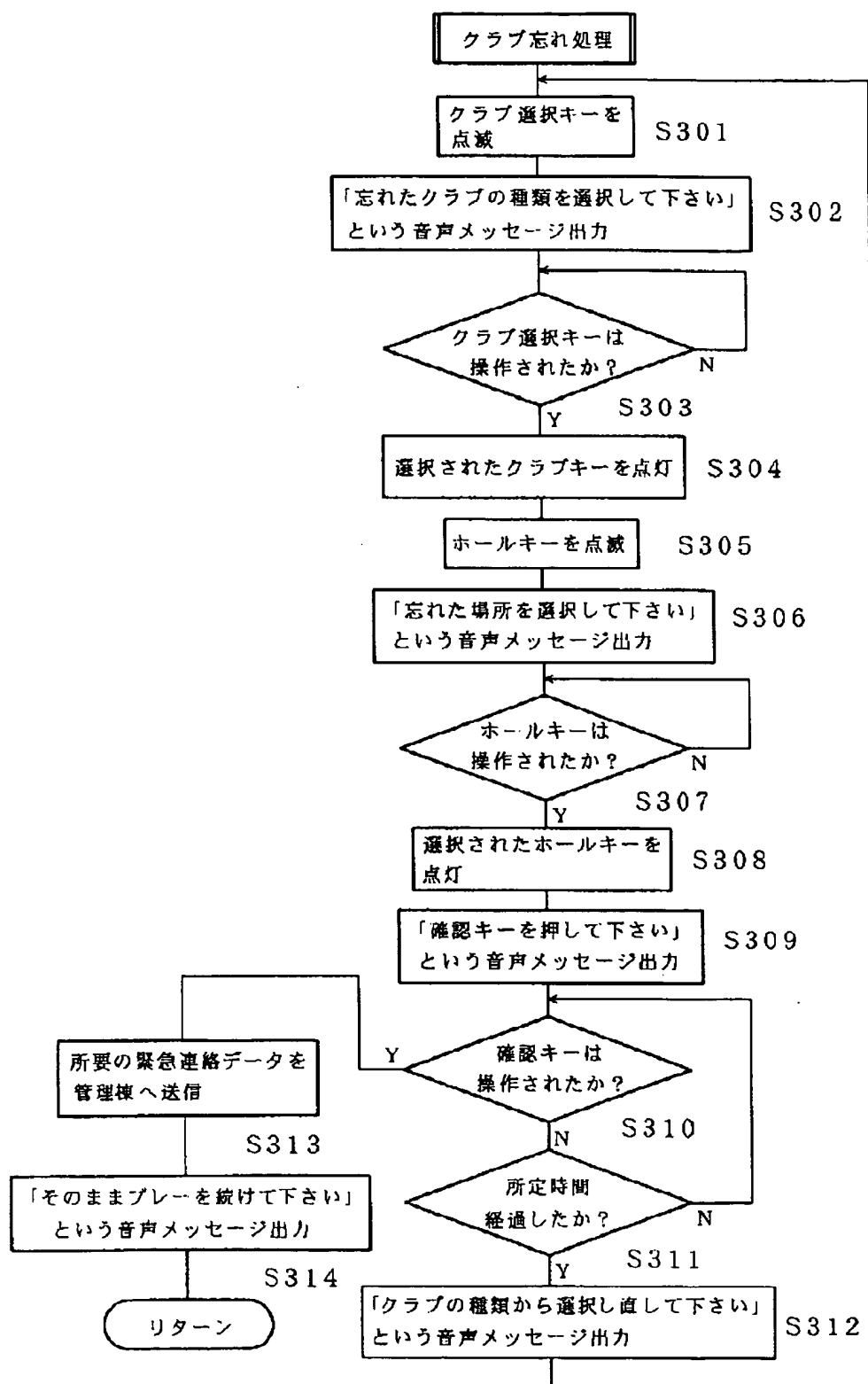
[Drawing 7]



[Drawing 6]

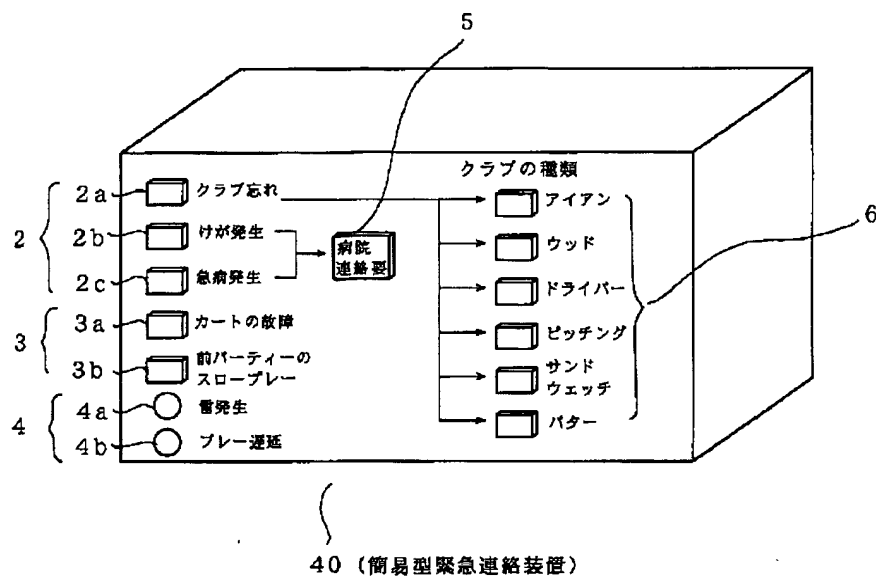


[Drawing 8]

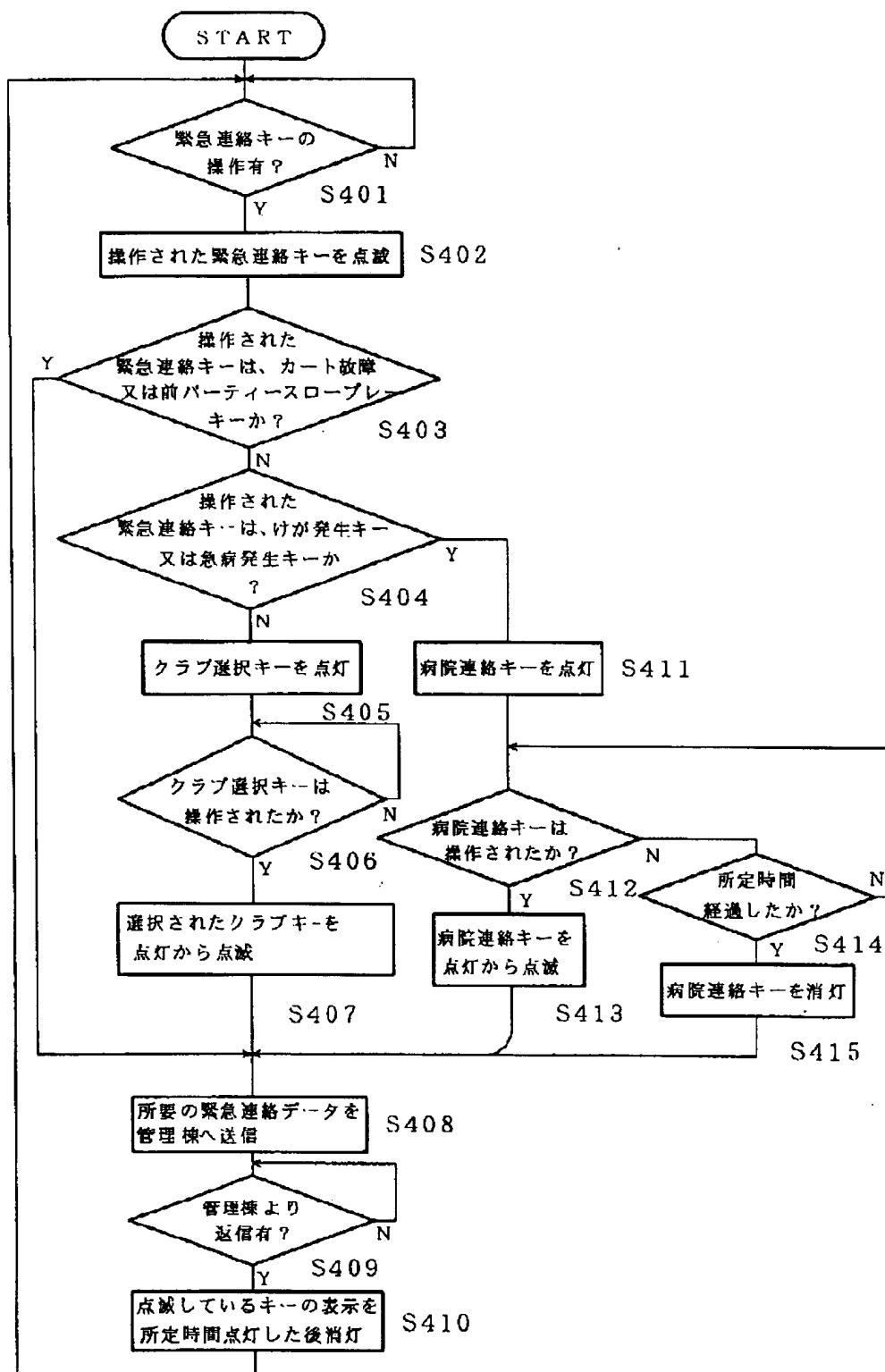


[Drawing 9]





[Drawing 10]



[Translation done.]